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Sovereign-guaranteed Loans and Borrowing Capacity

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Executive Summary

During the 1990's, the Mongolian energy sector relied heavily on foreign assistance to refurbish and rehabilitate facilities to support the restructuring of the economy to a market-based system. Much of the foreign assistance was in the form of grants and concessionary loans that are now approaching the end of the grace periods. Most of the loans undertaken to date have been guaranteed by the Government of Mongolia (GOM). Furthermore, the GOM has identified requirements for additional foreign financial assistance to modernise and expand the energy and fuel supply sector while attempting at the same time to restructure it into a sustainable market-based commercial sector of the economy. The donor community needs assurance that continued reliance on foreign debt would be sustainable and that the restructuring of the energy sector will proceed so as not to jeopardise the growth of the economy nor the repayment of new and outstanding loans.

Accumulated foreign debt incurred in the energy sector and guaranteed by the GOM amounted to just less than US$400 million at the end of 2001, or almost half of the outstanding foreign public debt. Projects identified for possible future assistance could more than double foreign loans attributable to the energy sector. Although not inconsiderable, the loans incurred to date can likely be sustained by the GOM, in part because the terms and conditions attached to the loans were quite concessionary. New foreign loans are likely to have tighter conditions and shorter repayment periods making them more difficult to sustain. Further, in advance of an energy strategy timetable and restructuring framework, it is not clear if and how the energy sector would be able to profitably use and repay the loans, leading to the need for the GOM to honour the sovereign guarantees. Such an outcome would significantly complicate the macro-economic management of the economy.

It is recommended that before any further loans are incurred, the project proposals be subjected to a rigorous financial and rate-of-return analysis. This would enable a ranking of possible projects and greater assurance of their likely viability over the longer term. Furthermore, the project analysis should demonstrate that the overall value of the energy sector entity where the loan proceeds are to be invested would increase by an amount at least equal to the value of the investment. This would ensure full recovery upon privatisation.

On a parallel basis, the commercialisation of the energy sector facilities should proceed expeditiously. This will provide better financial information on which to base investment decisions and privatisation proposals. A clear energy policy strategy for the sector would provide the framework within which short-term decisions can be made while moving towards a fully sustainable energy sector.

FINANCIAL SUSTAINABILITY OF FOREIGN LOANS (WITH A SOVEREIGN GUARANTEE) TO THE ENERGY SECTOR OF THE MONGOLIAN ECONOMY

1. Introduction:

During the early 1990's, Mongolia relied heavily on foreign assistance to refurbish facilities in the fuel and energy sector, to undertake a number of initiatives related to improved efficiencies in energy use and supply, and to expand alternative sources of energy supply to consumers outside urban areas. There are also numerous projects in the planning stage that anticipate various degrees of foreign grants, loans and technical assistance in implementation. The early projects were critical to ensure continued energy supplies to the economy as it moved through transition to an open market-based system and carried a sovereign guarantee. In the context of the development of a longer-term energy strategy for Mongolia, the role of foreign assistance needs to be evaluated both from the perspective of how it might best contribute to longer-term energy strategy objectives and how any associated negative consequences might best be mitigated.

2. Report Structure:

The first part of this report outlines a number of issues on a conceptual basis related to the past use of foreign loans in the energy sector and potential future use of such loans. Statistical annexes (spreadsheets) provide both historical and some forecast data on several economic variables related to the energy sector and the total economy. The second part of the report provides a preliminary statistical analysis of some of the issues raised. Limited time and resources precluded in depth consideration of all the issues raised.

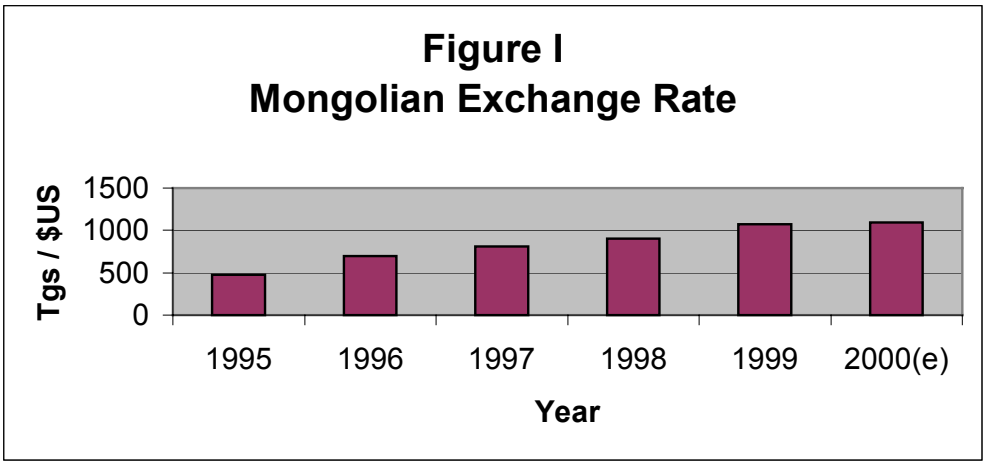
3. Issues Related to Foreign Loans in the Energy Sector:

Generally, investments in the energy sector are capital intensive and can be expected to add output capacity and/or to reduce costs in delivering energy to the final consumer at a profit. Comparative analyses of investment alternatives should permit a ranking where projects with higher rates of return would proceed first, provided the rate of return was higher than the opportunity cost of alternative investments or the cost of capital borrowed to undertake the project. If a project is unable to at least recover both capital and operating costs over the life of the project, it is not financially sustainable and will require cross-subsidies from other sources to continue operations. In a market-based economy, private investors do not undertake investments that do not promise a positive rate of return on the invested capital, normally including the opportunity cost of the capital invested.

Where the capital is borrowed, it can be from domestic and/or foreign sources. In the current situation in Mongolia, it is unlikely that foreign financed energy projects would be repayable from export earnings from the project directly but would rather support general economic growth in the economy. Consequently, the repayment of foreign loans to the energy sector becomes a potential matter of general relevance to the economy as a whole.

The foreign loans for the energy sector are denominated in foreign currencies and/or SDR's. As a result, there is an associated foreign exchange risk attached to these loans. If the exchange rate were to decline, more Togrogs would be required to pay back the same foreign obligation. The

exchange rate has already experienced some depreciation over the second half of the 1990's. (See figure I).[1] In effect, the cost of repaying US$ denominated foreign loans virtually doubled in domestic (Togrog) terms over this period. This risk can be minimised on future borrowing if the loans are made to privatised entities, although the foreign exchange risk on past loans would remain outstanding. This later risk can be reduced through hedging arrangements on future anticipated foreign exchange requirements but at additional cost.[2]



3.1 Macro-economic issues:

3.1.1 Balance of Payments:

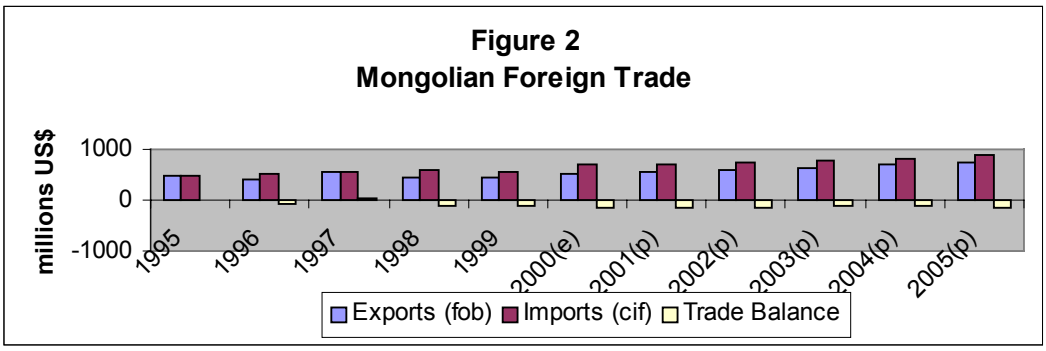
The inflow of funds from foreign sources can cause upward pressure on the exchange rate unless the flow matches the payment for imported components of the investment project. Similarly, the outflow of funds to pay back project foreign loans can cause downward pressure on exchange rates unless the project results in energy exports and/or displaced imports of a like magnitude.

The interest payable on foreign loans has a similar, albeit delayed impact on the balance of payments and exchange rates. In the current context, the concessionary terms and conditions attached to the early foreign loans have mitigated and delayed this impact.

As a general rule, the most important components of a county's balance of payments are the direct imports and exports of goods and services. Moreover, for smaller nations foreign trade represents a rather high proportion of GDP and external shocks such as a sudden weakening in an important export commodity such as copper can cause rather severe adjustments to the economy.

In Mongolia's case, there has been a fairly consistent balance of trade deficit that the IMF forecasts will decrease from the current level of roughly $150 million to about $ 125 million in 2003 and 2004. (See figure 2). Thus, for comparison purposes, the scheduled repayment of foreign debt with interest on current outstanding loans of roughly $20 million in 2012 (see figure 3) would be the equivalent of a 15% increase in the foreign trade deficit.

[1] IMF page 28.
[2] The IMF estimates that at the end of 2000, about three-quarters of Mongolia's public and publicly guaranteed external debt was denominated in Japanese yen or SDR's (IMF page 8).



3.1.2 Interest Rates:

Borrowing funds in domestic markets to finance energy projects can result in higher interest rates in the domestic economy. Also, sovereign guarantees on foreign loans can lead to a downgrading of the overall credit rating of a country, tending to increase the cost and availability of future credit from foreign sources for all sectors of the economy.

3.1.3 Inflationary Pressures:

The additional demand for labour and goods to be used in the energy projects can lead to higher prices in some particular markets and general upward price pressures in the economy. This effect can be compounded by higher domestic interest rates implemented by monetary authorities to combat higher inflation.

3.2 Energy Sector issues:

3.2.1 Energy Sector Priorities:

The fact that a foreign donor/lender has a particular interest in a specific project proposal may influence domestic decision-makers to move a less profitable project up the implementation schedule ahead of more profitable purely domestic projects. This outcome may not be deliberate but rather the result of having an easier access to domestic funds for projects with foreign participation. This "crowding out" effect on purely domestic projects may lead to an overall reduction in the rate of return on investments in the sector. (Where the assistance is in the form of a grant rather than a loan, this effect would be greatly diminished.) Bilateral foreign assistance in the form of loans is rarely altruistic and foreign lenders normally have their own set of priorities and reasons for pursuing a particular project.

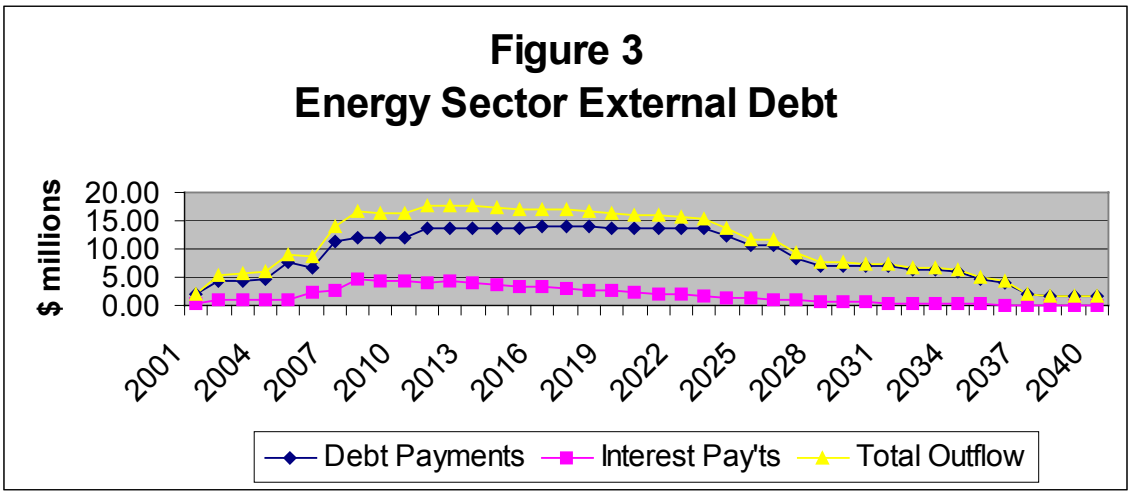
The GOM has prepared a set of possible energy sector projects for consideration by the international donor community for loan assistance.[3] Noticeable by its absence among the data provided on each project is information concerning the financial benefits to be derived from each project. Such information would permit a ranking of these projects with regard to their potential for reducing costs, increased earnings, benefit/cost ratio, internal rate of return etc. Even potential donors would presumably like to see this type of background information to help them in identifying those projects of particular interest. Of even more interest would be information describing how these projects would make their respective installation even more attractive to potential private investors in financial terms, both domestic and foreign. Ranking of projects by normalised financial criteria would also assist the GOM in establishing priorities for allocation of

[3] GOM (III) pages 51 - 68.

scarce resources while providing the international donor community with some confidence that these proposals are financially viable over the longer term and should generate more than sufficient returns to pay back the loans.

The loans to the energy sector in the first half of the 1990's were largely to rehabilitate facilities on an urgent basis to avoid/reduce energy shortages that were not only hampering the macro-economic performance of the economy but also causing hardship to particular sectors. There was an evident need to get things up and running again on a continued basis. As a consequence, most of these loans were of a concessionary nature, typically with an extended grace period of up to 10 years before nominal interest charges (around 1 percent) and extended repayment periods began, often over 30 years. Figure 3 portrays the scheduled interest and debt repayments on the foreign debt incurred in the energy sector over the 1990's and until 2001. The outflow peaks around 2012 at just under $20 million annually.

It is noteworthy that the loans extended in the second half of the 1990's typically were tighter i.e. the interest rates were higher, the grace period shorter and/or the repayment schedule was shorter. This tendency has continued into the loans extended in 2000 and 2001. Furthermore, the quantity of grants and free technical assistance is falling. Thus, it is to be expected that any future loans will also be more stringent in the associated terms and conditions, leading to even higher interest carrying costs and accelerated repayment.[4]



Thus, if the level of debt were to roughly double over the next couple of years to say, US$ 800 million, the outflow of interest and payments on the debt principle would more than double and ramp up sooner because of the tighter terms and conditions. An annual total outflow of US$ 45 million for energy sector debts alone would represent over 6 percent of the total exports for the entire economy projected for 2005. A debt repayment schedule of that order of magnitude would not only create macro-economic management issues but also start crowding out investments in other sectors of the economy such as transport infrastructure.

[4] Many of the sovereign loans have been passed on to the respective energy sector agencies of the Mongolian government such as the Energy Authority or the various state-owned energy companies using the proceeds on terms and conditions that are somewhat more stringent (higher interest rates and shorter repayment terms). This analysis does not deal with such matters as they amount to transfers from one arm of the government to another.

Further, critical government budgetary envelops such as health and education could suffer in order to meet payments on the energy sector debt.

3.2.2 Choice of Technology:

The foreign lender may influence decisions on technologies selected (and equipment used) in energy projects to the detriment of project profitability and/or compatibility with existing energy systems. As a result, the amount to be repaid to the foreign lender may be higher than necessary and/or the technology selected may be less than the most cost-effective available. As a result, the operational costs of maintaining the energy sector operations are higher than necessary and returns from the investment are reduced accordingly.[5]

3.3 Other issues:

Several of the energy and macro-economic issues outlined above are only relevant to the extent that the ownership of the energy sector remains largely in state hands. The government has stated that over the medium term, it intends to move towards a new electricity industry structure. The main elements involve privatisation of the generation and distribution assets and commercialisation of the transmission assets (but still state-owned), all operating within a new regulatory structure.[6] Such moves would alleviate the financial situation in at least two respects: the proceeds could be used to partially retire the outstanding debts; and, requirements for new financing with sovereign guarantees would be reduced accordingly. A similar approach could also be taken with the coal-mining sector but that process does not appear to be moving forward expeditiously, as compared to the electricity sector.

4. Evaluation of Issues Related to Foreign loans:

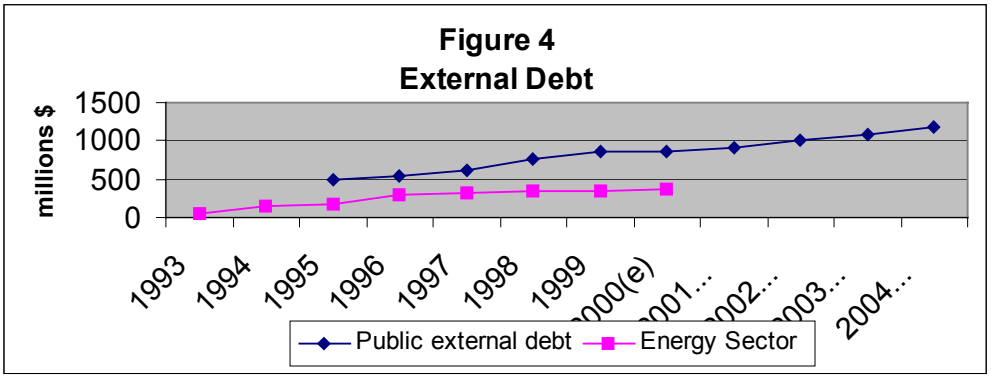
4.1 Macro-economic issues:

The World Bank has identified and reported on a number of shortcomings in the macroeconomic management of the Mongolian economy. "Government needs to act quickly to attack macroeconomic imbalances, and put in place a sustainable macroeconomic program."[7] The difficulty in managing the economy has been compounded by shocks such as the exceptionally cold winters of 2000-2001 that caused severe losses in the agricultural sector, further depressing the already declining rate of growth in the economy experienced over the second half of the 1990's. A number of disturbing trends in the economy were identified for early remedial action. "These trends -- low and declining national savings, low and falling productivity of investment, the mushrooming external debt, and worsening income distribution -- require immediate and persistent action if Mongolia is to realise the new government's admirable objectives of increasing growth and reducing poverty."[8] The external debt in particular increased rapidly from US$500 million in 1996 to US$ 850 million in 1999 and is estimated to rise to more than US$ 1100 million by 2004 [9], effectively more than doubling over 9 years.

[5] Take for example the case of an airline forced by such financing considerations to maintain a fleet with say, 6 types of aircraft rather than 3. All the staff technical training, spare parts inventories, maintenance manuals and equipment, etc. must be roughly doubled as compared to the case with fewer types of aircraft.
[6] GOM (III), page 51.
[7] World Bank (1), page 3.
[8] World Bank (1), page 2.
[9] IMF, page 28.

4.1.1 External debt

The energy sector has accounted for a significant proportion of this external debt, rising from nil to almost US$ 400 million by 2000 over the decade.[10] Thus it can be inferred that the foreign debts attributable to the energy sector have contributed to the macro-economic concerns raised by international financial institutions. The IMF has noted that "by 1999, the public debt exceeded 100 percent of GDP (72 percent of GDP in net present value (NPV) terms), posing a threat for fiscal sustainability".[11] A high ratio does not necessarily indicate an inability to repay foreign loans, but it does represent an early warning signal of potential difficulties ahead if unforeseen external shocks or other such abnormal circumstances arise.



4.2 Energy Sector Issues:

In January, 2002 there were about US$ 370 million in foreign loans outstanding to the energy, fuel and coal sector guaranteed by the Government of Mongolia (GOM).[12] Most of these loans involved generous concessions in terms of interest rates and grace periods before interest charges and debt repayment were scheduled to commence. Consequently, there has been little repayment to date (other than the Russian loans), nor any interest accumulated. (See figure II).

This situation is changing from two perspectives: the grace period for many of the loans is coming to an end; and the terms and conditions for later loans have much more stringent terms and conditions attached to them. Most of the early loans were typically at very low interest rates (1%), had a ten year grace period before interest was incurred and repayments scheduled, and the repayment period was over 30 years. More recent loans have typically been at higher interest rates (2 - 3%), had only a 5 year grace period, and the repayment is over 20 years or less.

There are a number of foreign loans for energy projects in various stages of negotiation where donors have already been identified amounting to $347 million. (See annex 4 for details.) In addition to these loans, the GOM has proposed a list of new priority programs and projects in this sector that it wishes the Donor community to consider.[13] The total cost of these projects is estimated at US$165 million, of which $118 million would be in the form of loans and $47 million in grants. Assuming that the costs are correct and that the share of loans in the total is valid, the

[10] The outstanding debts from the Soviet era is excluded from all the estimates and data quoted.
[11] IMF page 5.
[12] See Annex I for a detailed breakdown of the loans by project and the planned repayment schedule. About $12.8 million had already been repaid to Russia by 2001.
[13] See GOM (III) page 57 for a summary list and subsequent pages for detailed project descriptions.

total value of foreign guaranteed debt attributable to the energy sector would amount to about US$835 million. While less than half of these projects have been approved and are in various stages of completion and some of the loans under consideration may never move forward, the potential amounts are quite large. If the shortened grace periods, higher interest rates and shorter amortisation periods on recent loans are maintained for these projects, the potential issues raised above in managing the economy become even more critical.

In addition, the increased possibility of creating macro-economy management problems becomes a self-fulfilling prophecy. Concerns within the international lending community about the ability to repay outstanding loans leads to higher interest rates which in turn makes it more difficult to manage the loans.

4.3 Other Issues:

Privatisation of the assets in the energy sector will not resolve the issues surrounding the past use of foreign debt in the energy sector. The rate of growth of the debt attributable to the energy sector would slow down and, to the extent that foreign investors acquire the assets (using foreign funds to pay for them), the balance of payments issues will be attenuated.

The restructuring of the Energy Authority into separate commercial entities for generation, transmission and distribution forebodes well not only for possible privatisation but also for clearer market signals for calculating the potential costs and benefits arising from energy sector investment proposals. Potential investors need to understand the framework in which they will operate if they decide to proceed with a project.

It is interesting to note that there is at least one large energy project, the Egiin hydro power station with a potential capacity of 220 MW, which is under consideration as a straight foreign investment project, without government guarantees. If it does move forward on that basis, it would be an excellent prototype for longer-term energy sector sustainable development.

5. Options:

There are many possible options with regard to future actions and policy approaches to the use of foreign sovereign guaranteed loans to finance new and maintenance investments in the energy sector. To help focus the debate on these issues, three options have been selected to help illustrate the considerations and trade-offs involved. The first two represent polar extremes and the third a middle option, combining some aspects of both extremes.

5.1 Continuation of Status Quo Approach:

Under this option, virtually any project with a non-negative return that a donor agreed to finance on concessionary terms and conditions would be implemented. There would be a continued effort to rank projects according to an overall energy sector strategy but those priorities could be superseded by the availability of foreign financing considerations. The success of this option depends upon favourable economic growth rates for the Mongolian economy. If and when the combined repayment of accumulated foreign loans and associated interest became difficult for the economy to support because of slow economic growth and/or an external shock, even more concessionary loans would be sought to permit time to find innovative financial solutions to the repayment schedule. This scenario is somewhat exaggerated but it approaches the current state of affairs. Projects with high priority from an energy supply perspective (e.g. rehabilitation loans on existing equipment to maintain output) that have foreign financing on a concessionary basis were virtually assured of acceptance by the GOM and this behaviour was encouraged by the international donor community.

This behaviour is also perfectly understandable from the perspective of the 1990's in Mongolia. The foreign financing was very inexpensive, the repayment terms very generous and the need was immediate. As the concessionary terms for new loan financing is tightened for future loans, this option becomes less and less sustainable. Further, unless projects selected for foreign financing have undergone a rigorous financial analysis to ensure that they are likely profitable, there is no guarantee that these investments would be repayable in Togrogs, let alone in foreign currencies.

5.2 Full Privatisation and no Further Sovereign Loans:

At the other extreme, the GOM could turn down any further offers of foreign loans for the energy sector requiring sovereign guarantees. This "tough market-based" policy stance would be combined with privatisation of most of the energy sector on an early basis and an energy policy strategy that would accommodate or at least did not actively discourage foreign ownership of major segments of the energy sector. Short-term energy shortages and higher energy prices could develop in some areas of the economy, but the private sector would be relied upon to find innovative solutions to resolve these temporary imbalances. The energy regulatory authority would be required to set price ceilings in regulated energy markets and to act as a first-level disputes settlement mechanism between energy consumers and suppliers.

As the energy sector assets were privatised, the funds could be used to repay the concessionary loans or added to general government revenues until required to amortise the outstanding loans. This scenario is likely too harsh for any GOM to accept in the extreme, but it indicates the direction of some tough policy options that could be forced upon Mongolia if the repayment of the government guaranteed loans from foreign sources becomes untenable.

5.3 Utilise Foreign Loans Where Profitable and Supportive of Privatisation Valuations:

In this scenario, no new foreign loan to the energy sector would be undertaken unless it met at least two criteria. First, the project must be financially sustainable in its own right, i.e. after detailed financial analysis, it would be evident that the proposed project would generate enough cost reductions and/or returns to repay all the costs involved, including financing costs and a normal profit. Secondly, the project analysis would be required to provide clear evidence that the proposed project would enhance the potential sale/privatization value of the entity to which it would belong upon completion. Then, any subsequent privatization would clearly provide the funds to retire the associated foreign debt. Since past foreign borrowing can likely be repaid, the overall financial sustainability of foreign loans to the energy sector would be assured.

Restructuring of the energy sector to make the operations more commercial and with prices that fully reflect all costs, would make the required financial analysis before undertaking new energy projects easier and provide clearer signals for priority projects. This scenario assumes that the regulatory authority would ensure that the commercialized energy entities did not abuse their monopoly power. Privatization of the commercialized energy sector entities could proceed at a pace that ensured the GOM received full value for the assets sold.

One might also call this scenario the "maintain Mongolian control of energy strategy" scenario. Continuing down the free and easy foreign loan scenario is not sustainable and eventually leads to the loss of macro-economic control to international financial institutions. Going down the tough-market scenario route involves some tough medicine that could lead to the political party that tried to implement such a strategy losing political power.

6. Conclusions and Recommendations:

The GOM has entered into a series of foreign loans to repair and upgrade energy and fuel sector facilities. These loans were granted on a concessionary basis and are unlikely to cause severe hardship to the economy as they are repaid. More recent loans have much tighter terms and conditions attached to them with respect to interest charges, grace period and amortisation schedule. Any new loans are also likely to face these tighter terms and conditions. Unless evaluated carefully, potential new loans could greatly increase the foreign debt level of both the energy sector and the GOM, creating possible repayment hardships and other macro-economic management difficulties.

It is recommended that before any further loans are incurred, the project proposals be subjected to a rigorous financial analysis to ensure their likely viability and level of profitability. Furthermore, the project analysis should demonstrate that the overall value of the entity where the loan proceeds are to be invested should increase by an amount at least equal to the value of the investment. This type of rigorous project-by-project financial analysis would also yield an overall ranking of projects by financial rate-of-return, a valuable decision-making aid in determining priorities.

On a parallel basis, the commercialisation of the energy sector facilities should proceed expeditiously to provide better financial information on which to base investment decisions and evaluate privatisation proposals. The energy regulator should be relied upon to monitor the new energy sector commercial entities to preclude abuse of monopoly power and help settle access to facilities disputes. This would permit the government should shift its focus to longer-term energy strategies and policy analysis and away from day-to-day energy sector management issues..

Annex 1: Documents Referenced and Reviewed

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World Bank (2) *Mongolia: Elements for an Energy Strategy.* Consultative Group Meetings Paris, France: May 15-16, 2001.

Annex 2: Individuals Contacted

Addleton, Jonathan S., Mission Director, USAID.

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Dinger, John R., US Ambassador to Mongolia.

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Annex 3: List of Acronyms Used

GOM:	Government of Mongolia
GTZ:	Gesellschaft fuer Technische Zusammenarbeit (German Technical Cooperation)
IMF:	International Monetary Fund
ODA:	Official Development Aid
PRGF:	Poverty Reduction and Growth Facility
SDR:	Special Drawing Rights
USAID:	United States Agency for International Development

Annex 4: Projects in Negotiation with an Identified Foreign Loan Donor

Project	$US million	Donor
Durgan Hydro Power	26.5	China
Distribution Grid Loss Reduction	29.1	World Bank
Transmission Grid Rehabilitation	7.1	Germany
Orkhon Hydro Power	160.0	Japan
Rural Solar Power phase II	43.8	Japan,Neth.
Rural Solar Power phase III	80.5	& Germany
Total	347.0	

Notes: 1 SDR = US$ 1.242
1 DM = US$ 0.438
1000 ¥ = US$ 7.46
1000 Kor. Won = US$ 0.762

Annex 5: Scheduled Energy Sector Debt Repayment

SOVEREIGN LOANS FOR MONGOLIAN ENERGY SECTOR - Annual Principal Repayment (millions of $US)

Year		Interest %	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
PROJECT DESCRIPTION	Amount											
Power Plant rehabilitation (Russia)	19.10	2.00	1.90	1.90	1.90	1.90	1.90	0.40	0.40			
Extention of power plant #3 (Russia)	10.50	3.00										
Parts and Materials (Germany)	0.88	0.75			0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Parts and Mat'ls (World Bank cr. 2320)	4.08	0.75		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Egiin Hydro Project (ADB)	3.42	1.00		0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Nalaikh Boiler (Russia)	2.30	3.00										
Darkhan Rehabilitation (Germany) I	3.94	0.75				0.13	0.13	0.13	0.13	0.13	0.13	0.13
Darkhan Rehabilitation (Germany) II	2.19	0.75							0.07	0.07	0.07	0.07
PP#3 Boiler Rehabilitation (ADB)	33.71	1.00					1.12	1.12	1.12	1.12	1.12	1.12
PP#3 Turbine Rehabilitation (NDF)	4.97	1.00					0.17	0.17	0.17	0.17	0.17	0.17
PP#4 Boiler Rehabilitation I (JBIC)	33.52	2.30					1.68	1.68	1.68	1.68	1.68	1.68
PP#4 Boiler Rehabilitation II (JBIC)	45.80	0.75										
Energy Conservation Project (ADB)	8.62	1.00							0.29	0.29	0.29	0.29
Heat Efficiency Project (ADB)	36.62	1.00							1.22	1.22	1.22	1.22
Choibalsan Rehabilitation I (Germany)	6.57	0.75								0.22	0.22	0.22
Choibalsan Rehabilitation I I (Germany)	2.63	0.75										
Dalanzadgad Cogeneration PP (Korea) II	4.78	3.00		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Dalanzadgad Cogeneration PP (Korea)II	0.55	3.00				0.04	0.04	0.04	0.04	0.04	0.04	0.04
Taishir Hydro (Kuwait & Abu Dhabi)	33.00	2.50		1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
sub-total Fuel and Energy	257.17	1.51	1.90	3.97	4.00	4.17	7.13	5.63	7.21	7.03	7.03	7.03
Beganuur rehab'n (World Bank cr. 2320)	10.70	0.75		0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Coal tech'l Asst. (World Bank cr. 2551)	7.93	0.75				0.26	0.26	0.26	0.26	0.26	0.26	0.26
Beganuur/Shiver coal mine I (Japan)	43.47	2.30							2.17	2.17	2.17	2.17
Beganuur/Shiver coal mine II (Japan)	32.06	2.30							0.77	1.54	1.54	1.54
Beganuur mine (World Bank cr. 2854)	29.56	1.25						0.30	0.59	0.59	0.59	0.59
sub-total Coal	123.72	1.82	0.00	0.36	0.36	0.62	0.62	0.92	4.16	4.93	4.93	4.93
Total Fuel Energy and Coal	380.89	1.61	1.90	4.33	4.35	4.79	7.75	6.55	11.37	11.96	11.96	11.96
Total Interest Payments			.21	1.15	1.15	1.10	1.16	2.28	2.54	4.63	4.43	4.26
Total Debt and Interest			2.21	3.58	3.60	3.99	7.01	8.42	13.50	16.59	16.39	16.21

Annex 5: Scheduled Energy Sector Debt Repayment

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
PROJECT DESCRIPTION												
Power Plant rehabilitation (Russia)												
Extention of power plant #3 (Russia)												
Parts and Materials (Germany)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Parts and Mat'ls (World Bank cr. 2320)	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Egiin Hydro Project (ADB)	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Nalaikh Boiler (Russia)												
Darkhan Rehabilitation (Germany) I	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Darkhan Rehabilitation (Germany) II	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
PP#3 Boiler Rehabilitation (ADB)	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
PP#3 Turbine Rehabilitation (NDF)	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
PP#4 Boiler Rehabilitation I (JBIC)	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68
PP#4 Boiler Rehabilitation II (JBIC)	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
Energy Conservation Project (ADB)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Heat Efficiency Project (ADB)	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
Choibalsan Rehabilitation I (Germany)	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Choibalsan Rehabilitation I I (Germany)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Dalanzadgad Cogeneration PP (Korea) II	0.32	0.32	0.32	0.32	0.32	0.32	0.00					
Dalanzadgad Cogeneration PP (Korea)II	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.00			
Taishir Hydro (Kuwait & Abu Dhabi)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
sub-total Fuel and Energy	8.65	8.65	8.65	8.65	8.65	8.65	8.33	8.33	8.29	8.29	8.29	8.29
Beganuur rehab'n (World Bank cr. 2320)	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Coal tech'l Asst. (World Bank cr. 2551)	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Beganuur/Shiver coal mine I (Japan)	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Beganuur/Shiver coal mine II (Japan)	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
Beganuur mine (World Bank cr. 2854)	0.59	0.59	0.59	0.59	0.59	0.89	1.18	1.18	1.18	1.18	1.18	1.18
sub-total Coal	4.92	4.92	4.92	4.92	4.92	5.22	5.52	5.52	5.51	5.51	5.51	5.51
Total Fuel Energy and Coal	13.57	13.57	13.57	13.57	13.57	13.87	13.84	13.84	13.80	13.80	13.80	13.80
Total Interest Payments	4.04	4.18	3.95	3.72	3.49	3.26	3.02	2.79	2.56	2.33	2.10	1.87
Total Debt and Interest	17.61	17.75	17.52	17.29	17.06	17.12	16.87	16.63	16.36	16.13	15.91	15.68

Annex 5: Scheduled Energy Sector Debt Repayment

Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
PROJECT DESCRIPTION												
Power Plant rehabilitation (Russia)												
Extention of power plant #3 (Russia)												
Parts and Materials (Germany)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03		
Parts and Mat'ls (World Bank cr. 2320)	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14			
Egiin Hydro Project (ADB)	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11			
Nalaikh Boiler (Russia)												
Darkhan Rehabilitation (Germany) I	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	
Darkhan Rehabilitation (Germany) II	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
PP#3 Boiler Rehabilitation (ADB)	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
PP#3 Turbine Rehabilitation (NDF)	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
PP#4 Boiler Rehabilitation I (JBIC)	1.68	1.68										
PP#4 Boiler Rehabilitation II (JBIC)	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
Energy Conservation Project (ADB)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Heat Efficiency Project (ADB)	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
Choibalsan Rehabilitation I (Germany)	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Choibalsan Rehabilitation I I (Germany)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Dalanzadgad Cogeneration PP (Korea) II												
Dalanzadgad Cogeneration PP (Korea)II												
Taishir Hydro (Kuwait & Abu Dhabi)	1.50	0.00										
Sub-total Fuel and Energy	8.29	6.79	5.11	5.11	5.11	5.11	5.11	5.11	5.11	4.86	4.84	4.70
Beganuur rehab'n (World Bank cr. 2320)	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36			
Coal tech'l Asst. (World Bank cr. 2551)	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	
Beganuur/Shiver coal mine I (Japan)	2.17	2.17	2.17	2.17	0.00							
Beganuur/Shiver coal mine II (Japan)	1.54	1.54	1.54	1.54	1.54	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Beganuur mine (World Bank cr. 2854)	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
Sub-total Coal	5.51	5.51	5.51	5.51	3.34	1.85	1.85	1.85	1.85	1.49	1.49	1.23
Total Fuel Energy and Coal	13.80	12.30	10.63	10.63	8.46	6.96	6.96	6.96	6.96	6.35	6.33	5.93
Total Interest Payments	1.64	1.42	1.19	1.00	0.84	0.69	0.59	0.52	0.45	0.39	0.32	0.26
Total Debt and Interest	15.45	13.72	11.82	11.62	9.30	7.65	7.55	7.48	7.41	6.74	6.64	6.18

Annex 5: Scheduled Energy Sector Debt Repayment

Year	2034	2035	2036	2037	2038	2039	2040	2041
PROJECT DESCRIPTION								
Power Plant rehabilitation (Russia)								
Extention of power plant #3 (Russia)								
Parts and Materials (Germany)								
Parts and Mat'ls (World Bank cr. 2320)								
Egiin Hydro Project (ADB)								
Nalaikh Boiler (Russia)								
Darkhan Rehabilitation (Germany) I								
Darkhan Rehabilitation (Germany) II	0.07	0.07	0.07					
PP#3 Boiler Rehabilitation (ADB)	1.12							
PP#3 Turbine Rehabilitation (NDF)	0.17							
PP#4 Boiler Rehabilitation I (JBIC)								
PP#4 Boiler Rehabilitation II (JBIC)	1.53	1.53	1.53	1.53	1.53	1.53	1.53	
Energy Conservation Project (ADB)	0.29	0.29	0.29					
Heat Efficiency Project (ADB)	1.22	1.22	1.22	0.00				
Choibalsan Rehabilitation I (Germany)	0.22	0.22	0.22	0.22	0.00			
Choibalsan Rehabilitation I I (Germany)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Dalanzadgad Cogeneration PP (Korea) II								
Dalanzadgad Cogeneration PP (Korea)II								
Taishir Hydro (Kuwait & Abu Dhabi)								
Sub-total Fuel and Energy	4.70	3.41	3.41	1.83	1.61	1.61	1.61	0.00
Beganuur rehab'n (World Bank cr. 2320)								
Coal tech'l Asst. (World Bank cr. 2551)								
Beganuur/Shiver coal mine I (Japan)								
Beganuur/Shiver coal mine II (Japan)	0.05	0.05	0.05	0.05	0.03			
Beganuur mine (World Bank cr. 2854)	1.18	1.18	0.59	0.05				
Sub-total Coal	1.23	1.23	0.64	0.10	0.03	0.00	0.00	0.00
Total Fuel Energy and Coal	5.93	4.64	4.05	1.93	1.64	1.61	1.61	0.00
Total Interest Payments	0.26	0.19	0.14	0.09	0.05	0.04	0.02	
Total Debt and Interest	6.18	4.83	4.19	2.02	1.70	1.65	1.64	

Annex 6: Scheduled Energy Sector Interest Payments - post grace period - US$ millions

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PROJECT DESCRIPTION											
Power Plant rehabilitation (Russia)	0.21	0.17	0.13	0.09	0.05	0.02	0.01	0.00	0.00	0.00	0.00
Extention of power plant #3 (Russia)											
Parts and Materials (Germany)				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Parts and Mat'ls (World Bank cr. 2320)		0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03
Egiin Hydro Project (ADB)		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Nalaikh Boiler (Russia)											
Darkhan Rehabilitation (Germany) I					0.03	0.03	0.03	0.03	0.03	0.02	0.02
Darkhan Rehabilitation (Germany) II								0.02	0.02	0.02	0.01
PP#3 Boiler Rehabilitation (ADB)						0.34	0.33	0.31	0.30	0.29	0.28
PP#3 Turbine Rehabilitation (NDF)						0.05	0.05	0.05	0.04	0.04	0.04
PP#4 Boiler Rehabilitation I (JBIC)						0.77	0.73	0.69	0.66	0.62	0.58
PP#4 Boiler Rehabilitation II (JBIC)											
Energy Conservation Project (ADB)								0.09	0.08	0.08	0.08
Heat Efficiency Project (ADB)								0.37	0.35	0.34	0.33
Choibalsan Rehabilitation I (Germany)										0.05	0.05
Choibalsan Rehabilitation I I (Germany)											
Dalanzadgad Cogeneration PP (Korea) II		0.14	0.14	0.13	0.12	0.11	0.11	0.10	0.09	0.08	0.07
Dalanzadgad Cogeneration PP (Korea)II						0.02	0.01	0.01	0.01	0.01	0.01
Taishir Hydro (Kuwait & Abu Dhabi)		0.83	0.83	0.79	0.75	0.71	0.68	0.64	0.60	0.56	0.53
sub-total Fuel and Energy	0.21	1.21	1.17	1.09	1.03	2.12	2.01	2.36	2.25	2.17	2.05
Beganuur rehab'n (World Bank cr. 2320)		0.11	0.11	0.10	0.10	0.10	0.09	0.09	0.09	0.08	0.08
Coal tech'l Asst. (World Bank cr. 2551)					0.08	0.08	0.07	0.07	0.07	0.07	0.06
Beganuur/Shiver coal mine I (Japan)								1.00	0.95	0.90	0.85
Beganuur/Shiver coal mine II (Japan)								0.74	0.72	0.68	0.65
Beganuur mine (World Bank cr. 2854)							0.37	0.37	0.36	0.35	0.34
sub-total Coal	0.00	0.11	0.11	0.10	0.18	0.17	0.54	2.26	2.18	2.08	1.98
Total Fuel Energy and Coal	0.21	1.32	1.28	1.20	1.21	2.29	2.54	4.63	4.43	4.26	4.04

Annex 6: Scheduled Energy Sector Interest Payments - post grace period - US$ millions

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
PROJECT DESCRIPTION												
Power Plant rehabilitation (Russia)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Extention of power plant #3 (Russia)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parts and Materials (Germany)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parts and Mat'ls (World Bank cr. 2320)	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Egiin Hydro Project (ADB)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Nalaikh Boiler (Russia)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Darkhan Rehabilitation (Germany) I	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Darkhan Rehabilitation (Germany) II	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PP#3 Boiler Rehabilitation (ADB)	0.27	0.26	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.16	0.15
PP#3 Turbine Rehabilitation (NDF)	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
PP#4 Boiler Rehabilitation I (JBIC)	0.54	0.50	0.46	0.42	0.39	0.35	0.31	0.27	0.23	0.19	0.15	0.12
PP#4 Boiler Rehabilitation II (JBIC)	0.34	0.33	0.32	0.31	0.30	0.29	0.27	0.26	0.25	0.24	0.23	0.22
Energy Conservation Project (ADB)	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04
Heat Efficiency Project (ADB)	0.32	0.31	0.29	0.28	0.27	0.26	0.24	0.23	0.22	0.21	0.20	0.18
Choibalsan Rehabilitation I (Germany)	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03
Choibalsan Rehabilitation I I (Germany)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Dalanzadgad Cogeneration PP (Korea) II	0.06	0.05	0.04	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Dalanzadgad Cogeneration PP (Korea)II	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taishir Hydro (Kuwait & Abu Dhabi)	0.49	0.45	0.41	0.38	0.34	0.30	0.26	0.23	0.19	0.15	0.11	0.08
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
sub-total Fuel and Energy	2.30	2.16	2.03	1.90	1.77	1.63	1.50	1.38	1.25	1.13	1.01	0.89
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beganuur rehab'n (World Bank cr. 2320)	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04
Coal tech'l Asst. (World Bank cr. 2551)	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03
Beganuur/Shiver coal mine I (Japan)	0.80	0.75	0.70	0.65	0.60	0.55	0.50	0.45	0.40	0.35	0.30	0.25
Beganuur/Shiver coal mine II (Japan)	0.61	0.58	0.54	0.51	0.47	0.44	0.40	0.37	0.33	0.29	0.26	0.22
Beganuur mine (World Bank cr. 2854)	0.34	0.33	0.32	0.31	0.31	0.30	0.29	0.27	0.26	0.24	0.23	0.21
sub-total Coal	1.89	1.79	1.69	1.59	1.49	1.39	1.29	1.18	1.07	0.97	0.86	0.76
Total Fuel Energy and Coal	4.18	3.95	3.72	3.49	3.26	3.02	2.79	2.56	2.33	2.10	1.87	1.64

Annex 6: Scheduled Energy Sector Interest Payments - post grace period - US$ millions

Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
PROJECT DESCRIPTION												
Power Plant rehabilitation (Russia)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Extention of power plant #3 (Russia)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parts and Materials (Germany)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parts and Mat'ls (World Bank cr. 2320)	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Egiin Hydro Project (ADB)	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nalaikh Boiler (Russia)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Darkhan Rehabilitation (Germany) I	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Darkhan Rehabilitation (Germany) II	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PP#3 Boiler Rehabilitation (ADB)	0.13	0.12	0.11	0.10	0.09	0.08	0.07	0.06	0.04	0.03	0.02	0.01
PP#3 Turbine Rehabilitation (NDF)	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
PP#4 Boiler Rehabilitation I (JBIC)	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PP#4 Boiler Rehabilitation II (JBIC)	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.11	0.10	0.09	0.08
Energy Conservation Project (ADB)	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01
Heat Efficiency Project (ADB)	0.17	0.16	0.15	0.13	0.12	0.11	0.10	0.09	0.07	0.06	0.05	0.04
Choibalsan Rehabilitation I (Germany)	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Choibalsan Rehabilitation I I (Germany)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Dalanzadgad Cogeneration PP (Korea) II	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dalanzadgad Cogeneration PP (Korea)II	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taishir Hydro (Kuwait & Abu Dhabi)	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
sub-total Fuel and Energy	0.77	0.64	0.56	0.51	0.47	0.42	0.38	0.33	0.28	0.24	0.19	0.15
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beganuur rehab'n (World Bank cr. 2320)	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Coal tech'l Asst. (World Bank cr. 2551)	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
Beganuur/Shiver coal mine I (Japan)	0.20	0.15	0.10	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beganuur/Shiver coal mine II (Japan)	0.19	0.15	0.12	0.08	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Beganuur mine (World Bank cr. 2854)	0.20	0.18	0.17	0.16	0.14	0.13	0.11	0.10	0.08	0.07	0.05	0.04
sub-total Coal	0.65	0.54	0.44	0.33	0.22	0.17	0.15	0.12	0.10	0.08	0.06	0.04
Total Fuel Energy and Coal	1.42	1.19	1.00	0.84	0.69	0.59	0.52	0.45	0.39	0.32	0.26	0.19

Annex 6: Scheduled Energy Sector Interest Payments - post grace period - US$ millions

Year	2036	2037	2038	2039	2040
PROJECT DESCRIPTION					
Power Plant rehabilitation (Russia)	0.00	0.00	0.00	0.00	0.00
Extention of power plant #3 (Russia)	0.00	0.00	0.00	0.00	0.00
Parts and Materials (Germany)	0.00	0.00	0.00	0.00	0.00
Parts and Mat'ls (World Bank cr. 2320)	0.00	0.00	0.00	0.00	0.00
Egiin Hydro Project (ADB)	0.00	0.00	0.00	0.00	0.00
Nalaikh Boiler (Russia)	0.00	0.00	0.00	0.00	0.00
Darkhan Rehabilitation (Germany) I	0.00	0.00	0.00	0.00	0.00
Darkhan Rehabilitation (Germany) II	0.00	0.00	0.00	0.00	0.00
PP#3 Boiler Rehabilitation (ADB)	0.00	0.00	0.00	0.00	0.00
PP#3 Turbine Rehabilitation (NDF)	0.00	0.00	0.00	0.00	0.00
PP#4 Boiler Rehabilitation I (JBIC)	0.00	0.00	0.00	0.00	0.00
PP#4 Boiler Rehabilitation II (JBIC)	0.07	0.06	0.05	0.03	0.02
Energy Conservation Project (ADB)	0.01	0.00	0.00	0.00	0.00
Heat Efficiency Project (ADB)	0.02	0.01	0.00	0.00	0.00
Choibalsan Rehabilitation I (Germany)	0.00	0.00	0.00	0.00	0.00
Choibalsan Rehabilitation I I (Germany)	0.00	0.00	0.00	0.00	0.00
Dalanzadgad Cogeneration PP (Korea) II	0.00	0.00	0.00	0.00	0.00
Dalanzadgad Cogeneration PP (Korea)II	0.00	0.00	0.00	0.00	0.00
Taishir Hydro (Kuwait & Abu Dhabi)	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00
sub-total Fuel and Energy	0.11	0.08	0.05	0.04	0.02
	0.00	0.00	0.00	0.00	0.00
Beganuur rehab'n (World Bank cr. 2320)	0.00	0.00	0.00	0.00	0.00
Coal tech'l Asst. (World Bank cr. 2551)	0.00	0.00	0.00	0.00	0.00
Beganuur/Shiver coal mine I (Japan)	0.00	0.00	0.00	0.00	0.00
Beganuur/Shiver coal mine II (Japan)	0.00	0.00	0.00	0.00	0.00
Beganuur mine (World Bank cr. 2854)	0.02	0.01	0.00	0.00	0.00
sub-total Coal	0.03	0.01	0.00	0.00	0.00
Total Fuel Energy and Coal	0.14	0.09	0.05	0.04	0.02

Annex 7: IMF macro-economic data related to Mongolian Economy

Energy Sector Foreign Debt
Mongolian Data (IMF page 28)
Description ($millions US)

year	1995	1996	1997	1998	1999	2000(e)	2001(proj)	2002(proj)	2003(proj)	2004(proj)	2005(proj)
Exports fob	486	423	569	462	454	537	549	601	647	693	741
Public external debt	504	542	605	753	850	854	912	1009	1089	1171	
Togrogs/US$ (average)	449	548	790	841	1022	1077					
Debt Service	64.2	56.6	41	39.3	41.3	31.5	45.8	37.4	40.9	36.5	
Gross Int'l Official Reserves(end)	115	98	137.5	124.7	156.8	190.9	209.2	237.1	259.8	284.2	298.8
GDP (nominal)	1227	1379	1054	972	906	970	1020	1078	1156	1257	
Imports (cif)	489	511	538	582	567	687	699	733	771	819	871
Trade Balance	-3	-87	31	-120	-113	-150	-150	-132	-124	-126	-130
Public external debt (% of GDP)				77.4	93.9	88	89.4	93.6	94.2	93.1	90.5
Debt service (% of Exports)				7.3	9.3	6	7	5.3	5.4	4.5	4.2
Exch. Rate (Tgs/$US,average)	474	694	813	902	1072	1097					

Source:IMF Country report No. 01/182, October 2001. Page 28.